THE MINISTER OF STATE OF THE MINISTRY OF POWER AND NON-CONVENTIONAL ENERGY SOURCES (SHRI KALP NATH RAI): (a) During the year 1990-91 and 1991-92, three failures in each year resulting in disruption of power supply in large areas of the grid have occurred in the Northern Region.

(b) The main factors responsible for these grid failures have been as under:

1. Faults causing short circuits in the transmission system.
2. Failure of equipments like capacitive voltage transformers, circuit breakers, snapping of Conductors, etc.
3. Failure of protection system.
4. Low voltage caused by heavy reactive power demand by agricultural pumping loads.

(c) The loss of energy generation due to these grid failure during the year 1990-91 and 1991-92 has been estimated to be 53.4 and 80.1 MU respectively. An estimate on indirect losses is not available.

(d) and (e) The analysis of the grid disturbances done by Northern Regional Electricity Board has, *inter-alia*, indicated that none of the failures have occurred due to lapse of any individual.

(f) Various technical measures aimed at avoiding failures of equipments and localising the faults in the event of a disturbance are being taken. These cover review and modification of protection schemes, intensified maintenance of transmisson lines and equipments, installation of equipments to avoid voltage collapse and augmentation of modern load dispatch and communication facilities.

Award of Contract for Gandhar Power Project

1777. SHRI RAMDAS AGARWAL: Will the Minister of POWER AND NON-CONVENTIONAL ENERGY SOURCES be pleased to state:

(a) whether it is a fact that Government was under immense pressure from the Japanese Government to expedite its decision on the award of the contract for the Gandhar gas based power project of N.T.P.C.;

(b) whether it is also a fact that the third tranche of loan for the project in 1992 from the Overseas Economic Cooperation Fund is likely to be delayed;

(c) whether N.T.P.C's. technical terms have overcome the initial teething problems as regards the performance of turbine to be imported from Swiss and performance of machines with foreign company's assistance; and

(d) if so, what is the present stage of progress in this regard?

THE MINISTER OF STATE OF THE MINISTRY OF POWER AND NON-CONVENTIONAL ENERGY SOURCES (SHRI KALP NATH RAI): (a) No, Sir. The decision to award the contract was not a Government decision.

(b) No, Sir.

(c) NTPC's technical team was deputed to Netherlands to seek first hand information from the utility on the teething problems faced in the gas turbines and the solution effected by the manufacturer to overcome these problems. The team was satisfied with the effectiveness of the cerrective measures taken by the manufacturer to overcome the teething problems in gas turbines and of the satisfactory performance of the machines thereafter. The gas turbines are to be imported from West Germany and not from Switzerland.

(d) The contract for the main plant equipments has been awarded on 26-3-1992. Preliminary work is in progress at site.

Wind Energy Programme in Madhya Pradesh

1778. SHRI AJIT P. K. JOGI:
KUMARI ALIA:

Will the Minister of POWER AND NON-CONVENTIONAL ENERGY SOURCES be pleased to state:

(a) what are the schemes under the wind energy programme for Madhya Pradesh; and